

WE CLAIM:

1. A display comprising:
a plurality of display elements capable of controlling light within a
visible-light spectrum, the display elements being arranged over a display surface
5 of the display; and
one or more receivers arranged with the display elements over the
display surface, the one or more receivers being coupled with the display
elements and adapted to receive transmitted image information and activate the
display elements in response to, and in correspondence with, the image
10 information.
2. The display of claim 1, wherein the display elements include
red, green and blue display components arranged so as to cooperate in
15 producing light within the visible-light spectrum.
3. The display of claim 2, wherein the display elements further
include at least one of cyan, magenta, yellow, white and black display
20 components, arranged so as to cooperate in producing light within the visible-light
spectrum.
4. The display of claim 1, wherein the display elements include
25 emissive components capable of emitting light within the visible-light spectrum.
5. The display of claim 1, wherein the display elements include
reflective components capable of reflecting light within the visible-light spectrum.

6. The display of claim 1, wherein the display elements include transmissive components configured to regulate transmission of light to the display surface in correspondence with the image information.

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7. The display of claim 4, wherein the transmissive components are liquid crystal devices.

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8. The display of claim 1, wherein the receivers are oriented on the display to receive image information from a side of the display opposite of the display surface.

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9. The display of claim 1, wherein the receivers are oriented on the display to receive image information from a side of the display corresponding with the display surface.

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10. The display of claim 1, wherein the display elements and the one or more receivers are disposed on a flexible substrate.

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11. The display of claim 1, wherein the one or more receivers each include one or more infrared receiving diodes.

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12. The display of claim 1, wherein the one or more receivers each includes plural infrared receiving diodes corresponding, respectively, to at least a red emissive component, a green emissive component and a blue emissive component of the display elements.

13. The display of claim 1, wherein the one or more receivers each include one or more infrared phototransistors.

5 14. The display of claim 1, wherein the one or more receivers each include one or more visible-spectrum light-receiving diodes.

10 15. The display of claim 1, wherein the one or more receivers include one or more visible-spectrum light phototransistors.

15 16. The display of claim 1, wherein the one or more receivers each includes one or more radio-frequency receivers.

20 17. The display of claim 1, wherein a first display element is associated with a first receiver and a second display element is associated with a second receiver, the first display element being coupled with the second receiver and the second display element being coupled with the first receiver so as to affect a relative brightness of the first and second display elements with respect to each other.

25 18. The display of claim 1, wherein the image information includes information corresponding to a color within the visible-light spectrum.

30 19. The display of claim 1, wherein the image information includes information corresponding to intensity of color within the visible-light spectrum.

20. The display of claim 1, wherein the image information is communicated to the receivers as a plurality of infrared frequencies.

5 21. The display of claim 1, wherein the image information is communicated to the receivers as low-intensity visible light.

10 22. A display cell comprising:
a display element capable of controlling light within a visible-light spectrum;
a receiver configured to optically receive image information associated with an image to be displayed; and
interface circuitry coupled with the receiver and the display element,
15 the interface circuitry being configured to convey signals corresponding to the received image information from the receiver to the display element for display.

20 23. The display cell of claim 22, wherein the display element includes plural display components, such that the plural display components cooperate in producing light within the visible-light spectrum.

25 24. The display cell of claim 23, wherein the plural display components include a red display component, a green display component and a blue display component.

30 25. The display cell of claim 22, wherein the display elements include emissive components capable of emitting light within the visible-light spectrum.

26. The display cell of claim 22, wherein the display elements include reflective components capable of reflecting light within the visible-light spectrum.

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27. The display cell of claim 22, wherein the display element includes a transmissive component configured to regulate transmission of light in correspondence with the image information.

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28. The display cell of claim 22, wherein the receiver is an infrared receiver.

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29. The display cell of claim 22, wherein the receiver is a visible-light receiver.

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30. The display cell of claim 22, wherein the receiver is a radio-frequency receiver.

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31. The display cell of claim 22, wherein the interface circuitry includes decode circuitry configured to convert the received image information into signals corresponding to a color within the visible-light spectrum to be displayed by the display element.

32. The display cell of claim 31, wherein the interface circuitry further includes location indication circuitry, the location indication circuitry and decode circuitry coupled so as to cooperate in displaying an image corresponding to the image information in cooperation with a plurality of other display cells.

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33. A display system comprising:

an optically-addressed display including a plurality of display elements adapted to control light within a visible-light spectrum, and a plurality of receivers coupled with the display elements, the receivers being configured to optically receive image information; and

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a projector configured to project the image information onto the display, wherein the projector optically addresses the plurality of display elements via the receivers.

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34. The display system of claim 33, wherein the display elements each contain plural display components, each display component being associated with a receiver of the plurality of receivers, the plural display components being arranged so as to cooperate in producing light within the visible-light spectrum.

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35. The display system of claim 33, wherein the projector is a beam projector configured to raster the display and optically communicate the image information to the plurality of display elements via the receivers by repetitively sweeping a beam over the display.

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36. The display system of claim 35, wherein the beam projector is an infrared-beam projector configured to project a plurality of infrared frequencies and the receivers are infrared receivers configured to receive one or more of such infrared frequencies.

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37. The display system of claim 33, wherein the projector is configured to contemporaneously project information of a complete image to be displayed.

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38. The display system of claim 37, wherein the information of the complete image is projected using one of a plurality of infrared frequencies and pulse duty cycle modulated infrared light, and the receivers are infrared receivers configured to receive such infrared frequencies.

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39. The display system of claim 37, wherein the information of the complete image is projected using low-intensity visible light and the receivers are visible-light receivers.

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40. The display system of claim 33, wherein the projector is configured to transmit information to the receivers via radio frequencies, the receivers are radio-frequency receivers, and the display further includes decode circuitry and location indication circuitry associated with each display element, wherein the decode circuitry and location indication circuitry convert the image information into signals corresponding to visible-spectrum light to be displayed by each display element so as to display an image corresponding to the image information.

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41. A method for displaying images comprising:

optically addressing a plurality of display elements disposed on a display surface by projecting image information associated with an image to be displayed, the display elements being capable of controlling light within a visible-
5 light spectrum;

receiving the image information on a surface of the display;

converting the image information into signals corresponding to colors and intensities associated with portions of the image to be displayed; and
10 displaying the image via the plurality of display elements.

42. The method of claim 41, wherein the image information is projected on a surface of the display that is opposite the display surface.

43. The method of claim 42, wherein projecting the image information includes rastering a beam over the display.

44. The method of claim 41, wherein receiving the image information includes receiving a low-intensity visible-spectrum light image.

45. The method of claim 41, wherein receiving the image information includes receiving infrared signals corresponding to visible-light colors and intensities of the image to be displayed.

46. A display comprising:

a plurality of display means for controlling light within a visible-light spectrum, the display means being arranged over a display surface of the display; and

5 one or more receiver means arranged with the display means over the display surface, the one or more receiver means being coupled with the display means and adapted to receive transmitted image information and activate the display means in response to, and in correspondence with, the image information.

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47. A display cell comprising:

a display element means for controlling light within a visible-light spectrum;

15 a receiver means for optically receiving image information associated with an image to be displayed; and

an interface means for conveying signals corresponding to the received image information from the receiver means to the display element means for display.

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48. A display system comprising:

an optically-addressed display including a plurality of display means for controlling light within a visible-light spectrum, and a plurality of receiver means for optically receiving image information coupled with the display means; and

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a projector means for projecting the image information onto the display means, wherein the projector means optically addresses the plurality of display means via the receiver means.

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49. A display comprising:

a plurality of display elements capable of controlling light within a visible-light spectrum, the display elements being arranged over a display surface of the display; and

5 one or more receivers arranged with the display elements over the display surface, the one or more receivers being coupled with the display elements and adapted to receive transmitted image information and activate the display elements in response to, and in correspondence with, the image information, wherein a first display element is associated with a first receiver and
10 a second display element is associated with a second receiver, the first display element being coupled with the second receiver and the second display element being coupled with the first receiver so as to affect a relative brightness of the first and second display elements with respect to each other.

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50. A display cell comprising:

a display element capable of controlling light within a visible-light spectrum;

a receiver configured to optically receive image information
20 associated with an image to be displayed;

interface circuitry coupled with the receiver and the display element, the interface circuitry being configured to convey signals corresponding to the received image information from the receiver to the display element for display, wherein the interface circuitry includes decode circuitry configured to convert the
25 received image information into signals corresponding to a color within the visible-light spectrum to be displayed by the display element, and location indication circuitry, the location indication circuitry and decode circuitry being coupled so as to cooperate in displaying an image corresponding to the image information in cooperation with a plurality of other display cells.

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51. A display system comprising:

an optically-addressed display including a plurality of display elements adapted to control light within a visual light spectrum, and a plurality of visible-light receivers coupled with the display elements, the receivers being
5 configured to optically receive image information; and

a projector configured to project the image information onto the display, wherein the projector optically addresses the plurality of display elements via the receivers, the projector being configured to contemporaneously project information of a complete image to be displayed and the image information is
10 projected using low-intensity visible-light.